

WHAT IS CLAIMED IS:

1. A method for manufacturing a lithographic printing plate, the method comprising:

a drying and heating step wherein, while a strip-shaped support, on which a photosensitive coating solution containing an organic solvent is coated such that a photosensitive coated layer is formed by the photosensitive coating solution, is continuously conveyed, the photosensitive coated layer is dried by a first heating means to a dry-to-touch state, and the support and the photosensitive coated layer are heated by a second heating means provided at a downstream side of the first heating means so that hardening of the photosensitive coated layer is promoted.

2. A method for manufacturing a lithographic printing plate according to claim 1, wherein the first heating means is a drying step in which the photosensitive coated layer is heated to 90°C or more.

3. A method for manufacturing a lithographic printing plate according to claim 1, wherein the first heating means is a drying step in which a remaining amount of the organic solvent in the photosensitive coated layer is 5 wt% or less of the photosensitive coated layer which is substantially completed dried.

4. A method for manufacturing a lithographic printing plate according to

claim 1, wherein a heating system of the first heating means is a hot air drying system.

5. A method for manufacturing a lithographic printing plate according to claim 1, wherein a heating system of the second heating means is a heat radiation system.

6. A method for manufacturing a lithographic printing plate according to claim 1, wherein a heating system of the second heating means is an induction heating system

7. A method for manufacturing a lithographic printing plate according to claim 1, wherein the support is one of a polyester film and an aluminum plate.

8. A method for manufacturing a lithographic printing plate according to claim 7, wherein a thickness of the aluminum plate is about 0.1 mm to 0.6 mm.

9. A method for manufacturing a lithographic printing plate according to claim 1, wherein a condition of heating by the second heating means is controlled in accordance with a type of the photosensitive coated layer formed on the support, such that a temperature of the photosensitive coated layer immediately after heating by the second heating means is a predetermined temperature which is set in accordance with the type of the

photosensitive coated layer.

10. A method for manufacturing a lithographic printing plate according to claim 9, wherein the lithographic printing plate is a thermal type digital direct printing plate, and a final temperature reached by the photosensitive coated layer is 125 to 145°C.

11. A method for manufacturing a lithographic printing plate according to claim 9, wherein the lithographic printing plate is a photopolymer type digital direct printing plate, and a final temperature reached by the photosensitive coated layer is 100 to 135°C.

12. A method for manufacturing a lithographic printing plate according to claim 1, wherein in a case in which thicknesses and widths of supports supplied to the second heating means continuously change, a condition of heating the supports and photosensitive coated layers by the second heating means changes in accordance with the thicknesses and the widths of the supports.

13. A method for manufacturing a lithographic printing plate according to claim 12, wherein the second heating means is a plurality of drying devices which are disposed along a conveying path of the support, and amounts of heat supplied by the plurality of heating devices are respectively controlled in accordance with changes in dimensions of the supports.

14. A method for manufacturing a lithographic printing plate according to claim 1, wherein after hot air drying of the coated layer by the first heating means, the second heating means radiates mid-infrared radiation or far infrared radiation to the photosensitive coated layer and the support so as to heat the support and the photosensitive coated layer.

15. A method for manufacturing a lithographic printing plate according to claim 1, further comprising a cooling step in which the support and the photosensitive coated layer are forcibly cooled by a cooling means provided at a downstream side of the second heating means.

16. A method for manufacturing a lithographic printing plate according to claim 15, wherein the cooling step is an air-cooling system in which low temperature air is blown out toward the photosensitive coated layer.

17. A method for manufacturing a lithographic printing plate according to claim 15, further comprising, at a downstream side of the cooling step, a step of forming an overcoat layer on the photosensitive coated layer.